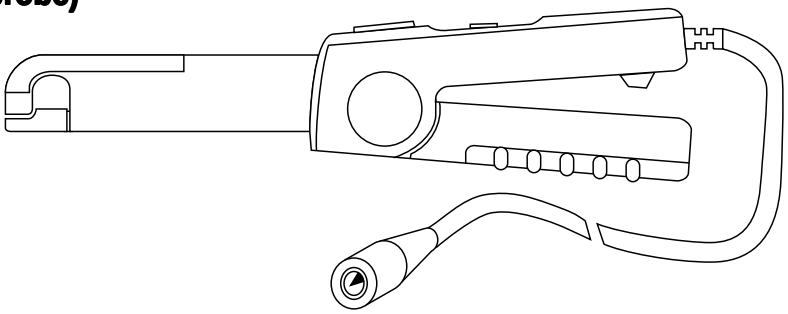
Clamp-on AC/DC current probe for oscilloscope use

Model E3N (Insulated current probe)

Current	10 A peak	100 A peak
Ouput	100 mV/A	10 mV/A



Electrical Specification

Output signal:
In mV (1000 mV peak max)

Accuracy and phase shift *(1)*:

Range	100 mV/A	10 mV/A
Current range	50 mA...10 A peak	1 A...100 A peak
% Accuracy of Output signal	3% ±5 mV	▪ 500 mA...40 A peak: 4% ±500 µV ▪ 40...100 A peak : 15% max at 100 A
Frequency Range	DC...100 kHz (-3 dB)	
Phase shift	DC...65 Hz: < 1.5°	DC...65 Hz: < 1°
	≥ 1 MΩ and ≤ 100 pF	
Insertion Impedance	0.01 Ω	
Noise	6 mV	600 µV
Slew Rate	0.3 V/µs	20 mV/µs
Rise/Fall Time	3 µs	4 µs

Working voltage:
600 Vrms max

Common mode voltage:
600 Vrms max

Influence of adjacent conductor:
< 0.2 mA/A AC

Influence of conductor positioning in the clamp's jaws:
0.5% of the reading at 1 kHz

Battery:
9 V Alkaline (NEDA 1604A, IEC 6LR61)

Battery life:
55 Hrs approx.

Typical consumption:
8.6 mA

Battery level indicator:
Green LED when > 6.5 V

Overload indicator :
Red LED indicates the measured current is too high for the selected range.

Mechanical Specification

Operating temperature:
0° to +50°C

Storage temperature:
-30° to +80°C

Temperature Influence:
< 0.2% per °C

Operating Relative Humidity:
- +10° to +30°C: 85 ±5% RH (without condensation)
- +40° to +50°C: 45 ±5% RH (without condensation)

Operating altitude:
0 to 2000 m

Max. jaw insertion capacity:
11.8 mm Ø

Zero adjustment:
20 turn potentiometer

Drop test:
1 m on a 38 mm container of oak on concrete, test in accordance with IEC 1010

Mechanical shock:
100 g, in accordance with IEC 68-2-27

Vibration:
10/55/10 Hz, 0.15 mm
test in accordance with IEC 68-2-6

Casing protection:
IP20 in accordance with IEC 529

Self-extinguishing ability:
Casing : UL94 V2

Dimensions:
231 x 36 x 67 mm

Weight:
330 g with battery

Colour:
Dark grey

Output:
Via 2 m coaxial cable ended with BNC insulated plug.

Safety Specification

Electrical:
600 V category III, pollution: 2
300 V category IV, pollution: 2

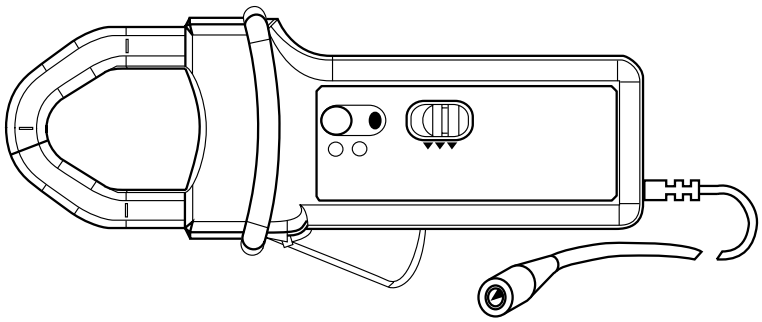
Electromagnetic Compatibility (EC Stamp):
EN 50081-1: class B
EN 50082-2:
- Electrical Discharge IEC 1000-4-2
- Radial Field IEC 100-4-3
- Rapid transients IEC 1000-4-4
- Magnetic Field to 50/60 Hz IEC 1000-4-8

(1) Reference Conditions: 23°C ±5°K, 20 to 75% RH, 48 to 65 Hz, external magnetic field < 40 A/m, no current carrying conductor nearby, centred test sample, load impedance 1 MΩ

To order	Reference
Clamp-on AC/DC current probe model **E3N** for oscilloscope use, with battery and user's manual	P01.**1200.43A**

Clamp-on AC/DC current probe for oscilloscope use
Model PAC12

Current	40 A AC 60 A DC	400 A AC 600 A DC
Ouput	10 mV/A	1 mV/mA



Model PAC12 is a high precision clamp-on current probe that operates using Hall effect technology for the measurement of AC and DC currents. It has a mV BNC output so the reading can be directly displayed on an oscilloscope and comes with an automatic DC zeroing system.

Electrical Specification

Range	60 A	600 A
Current range	0.2...40 A (60 A peak) 0.4...60 A DC	0.5...400 A (600 A peak) 0.5...600 A DC
Output signal	10 mV/A	1 mV/A
% Accuracy of output signal *(1)*	0.5...40 A: 1.5% R ±5 mV 40...60 A DC: 1.5%	0.5...100 A: 1.5% R ±1 mV 100...400 A DC: 2% 400...600 A DC: 2.5%
Phase shift (45...65 Hz) *(1)*	10...20 A: < 3° 20...40 A: < 2°	10...100 A: < 2° 100...400 A: < 1.5°
Noise	DC...1 kHz: < 8 mV DC...5 kHz: < 12 mV 0.1 Hz...5 kHz: < 2 mV	DC...1 kHz: < 1 mV DC...5 kHz: < 1.5 mV 0.1 Hz...5 kHz: < 500 µV
Rise/fall time	≤ 100 µs to go from 10 to 90% of V_{out}	≤ 70 µs to go from 10 to 90% of V_{out}

Overload:
2000 A DC and 1000 A AC up to 1 kHz

Bandwidth:
DC up to 10 kHz at -3 dB

Load impedance:
≥ 1 MΩ and ≤ 100 pF

Insertion impedance:
0.39 mΩ at 50 Hz, 58 mΩ at 1000 Hz

Working voltage:
600 Vrms

Common mode voltage:
600 Vrms

Influence of adjacent conductor:
< 10 mA/A at 50 Hz

Influence of conductor positioning in the clamp's jaws:
0.5% of the reading

Battery:
9V Alkaline (NEDA 1604 A, IEC 6LR61)

Battery level indicator:
Green LED battery voltage > 6.5 V

Battery life:
50 Hrs with alkaline battery

Overload indicator:
Red LED

Automatic shut-off:
10 min

Mechanical Specification

Operating temperature:
-10° to 55°C

Storage temperature:
-40° to 80°C

Operating relative humidity:
+10° to +35°C: 90 ±5% RH
(without condensation)
+40° to +55 °C: 70 ±5% RH
(without condensation)

Temperature influence:
< 300 ppm/°K or 0.3%/10°K
< 0.3 A/°K

Humidity influence:
10 to 90% RH at reference temperature:
< 0.1%

Operating altitude:
0 to 2000 m

DC zero setting:
Automatic, push button operation
(± 10 A)

Max. jaw insertion capacity:
1 cable: 30 mm Ø or 2 cables: 24 mm Ø or 2 x 31.5 x 10 mm busbars

Casing protection:
IP30 in accordance with IEC529

Drop test:
1 m onto a 38 mm container of oak and concrete, test in accordance with IEC 1010

Mechanical shock:
100 g, in accordance with IEC 68-2-27

Vibration:
Test in accordance with IEC 68-2-6
■ Frequency range:
5 to 15 Hz: amplitude: 1.5 mm
15 to 25 Hz: amplitude: 1 mm
25 to 55 Hz: amplitude: 0.25 mm

Self-extinguishing ability:
Casing and clamp jaws: UL 94 V0

Dimensions:
224 x 97 x 44 mm

Weight:
440 g

Colour:
Dark grey with red clap jaws

Output:
Via 2 m coaxial cable with insulated BNC plug

Safety Specification

Electrical:
Double or reinforced insulation between primary, secondary and outer casing in accordance with 1010-1-2 (indoor use).
600 V category II, pollution: 2
300 V category IV, pollution: 2

Electromagnetic Compatibility (EC Stamp):
EN 50081-1: class B
EN 50082-2:
- Electrical Discharge IEC 1000-4-2
- Radial Field IEC 1000-4-3
- Rapid Transients IEC 1000-4-4
- Magnetic field to 50/60 Hz IEC 1000-4-8

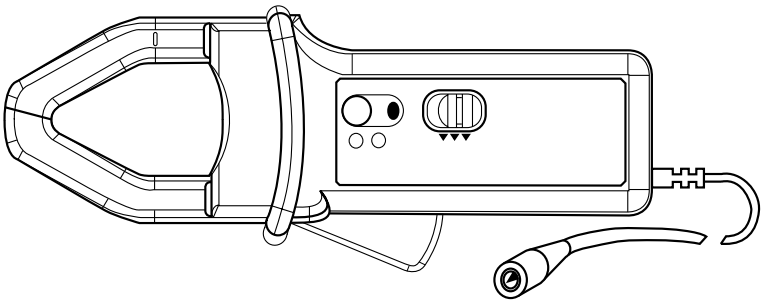
(1) Reference Conditions : 18° to 28°C, 20 to 75% RH, 48 to 65 Hz, external magnetic field < 40 A/m, no DC component, no current carrying conductor nearby, centred test sample, load ≥ 1 MΩ and ≤ 100 pF, reset to zero before measurement (DC only) DC to 65 Hz, Battery 9V ±0.1 V

To order	Reference
Clamp-on AC/DC current probe model **PAC12** for oscilloscope use, with battery and user's manual	P01.**1200.72**

Clamp-on AC/DC current probe for oscilloscope use
Model PAC22 (Insulated current probe)

Current	100 A AC 150 A DC	1000 A AC 1400 A DC
Ouput	10 mV/A	1 mV/A

Model PAC22 is a high precision clamp-on current probe that operates using Hall effect technology for the measurement of AC and DC currents.
It has a mV output via a BNC connector for use with oscilloscopes, and comes with an automatic DC zeroing facility.



Electrical Specification

Range	150 A	1400 A
Current range	0.2...100 A AC (150 A peak) 0.4...150 A DC	0.5...1000 A AC (1400 A peak) 0.5...1400 A DC
Output signal	10 mV/A	1 mV/A
% Accuracy of output signal *(1)*	0.5...20 A: 1.5% ±5 mV 20...100 A: 1.5% 100...150 A DC: 2.5%	0.5...100 A: 1.5% ±1 mV 100...800 A: 2.5% 800...1000 A: 4% 1000...1400 A DC: 4%
Phase Shift 45...65 Hz) *(1)*	10...20 A: < 3° 20...100 A: < 2°	10...200 A: < 2° 200...1000 A: < 1.5°
Noise	DC...1 kHz: < 8 mV DC...5 kHz: < 12 mV 0.1 Hz...5 kHz: < 2 mV	DC...1 kHz: < 1 mV DC...5 kHz: < 1.5 mV 0.1 Hz...5 kHz: < 500 µV
Rise/fall time	≤ 100 µs go to from 10 to 90% of V_{out}	≤ 70 µs to go from 10 to 90% of V_{out}

Overload:
3000 A DC and 2000 A AC up to 1 kHz

Bandwidth:
DC...10 kHz at -3 dB

Load impedance:
≥ 1 MΩ and ≤ 100 pF

Insertion impedance:
0.39 mΩ at 50 Hz, 58 mΩ at 1000 Hz

Working voltage:
600 Vrms

Common mode voltage:
600 Vrms

Influence of adjacent conductor:
< 10 mA/A at 50 Hz

Influence of conductor positioning in the clamp's jaws:
0.5% of reading

Battery:
9V Alkaline (NEDA 1604 A, IEC 6LR61)

Battery level indicator:
Green LED when battery voltage > 6.5 V

Battery life:
50 Hrs with Alkaline battery .

Overload indicator:
Red LED

Auto shut-off:
After 10 min

Mechanical Specification

Operating temperature:
-10° to +55°C

Storage temperature:
-40° à +80°C

Operating Relative Humidity:
+10° to +35°C : 90 ±5% RH (without condensation)
+40° to +55 °C : 70 ±5% RH (without condensation)

Temperature Influence:
< 300 ppm/°K or 0.3%/10°K
< 0.3 A/°K

Humidity Influence:
10 to 90% RH for temperature reference: < 0.1%

Operating temperature:
0 to 2000 m

Zero adjustment:
±10 A adjustment via push button

Max. Jaw insertion capacity:
1 cable: 42 mm Ø, 2 cables: 25.4 mm Ø, or 2 busbars: 50 x 5 mm

Casing protection:
IP30 in accordance with IEC529

Drop test:
1 m onto a 38 mm container of oak on concrete, test according to IEC 1010

Mechanical shock:
100 g, in accordance with IEC 68-2-27

Vibration:
test in accordance with IEC 68-2-6

Frequency range:
5 to 15 Hz: amplitude: 1.5 mm
15 to 25 Hz: amplitude: 1 mm
25 to 55 Hz: amplitude: 0.25 mm

Self-extinguishing ability:
Casing and clamp jaws: UL 94 V0

Dimensions:
236,5 x 97 x 44 mm

Weight:
520 g

Colour:
Dark grey with red clamp jaws

Output:
Via 2 m coaxial cable with insulated BNC connector

Safety Specification

Electrical:
Double or reinforced insulation between the primary, secondary and the outer casing in accordance with IEC 1010-1-2 (indoor use).
600 V category III, pollution: 2
300 V category IV, pollution: 2

Electromagnetic Compatibility (EC Stamp):
EN 50081-1: class B
EN 50082-2:
- Electrical Discharge IEC 1000-4-2
- Radial field IEC 1000-4-3
- Rapid Transients IEC 1000-4-4
- Magnetic field to 50/60 Hz IEC 1000-4-8

(1) Reference conditions: 18° to 28°C, 20 to 75% RH, 48 to 65 Hz, external magnetic field < 40 A/m, no DC component, no current carrying conductor nearby, centred test sample, load ≥ 1 MΩ and ≤ 100 pF, zero adjustment before measurement (DC only) DC to 65 Hz, Battery 9V ±0.1 V

To order	Reference
Clamp-on AC/DC current probe model **PAC22** for oscilloscope use, with battery and user's manual	P01.**1200.73**

MTX 1032-C
MTX 1032-B
MX 9030-Z

30 & 50 MHz differential probes for oscilloscopes

The ideal analogue and digital oscilloscope accessory for displaying signals not referenced to the earth

A family of 3 models for a wide range of applications
A choice of 1 or 2 input channels
Banana or coaxial/banana extra-long measurement leads
A coaxial input model specially for use with oscilloscope probes
Bandwidth 30 MHz or 50 MHz
Mains or battery power supply (depending on model)
2 presentation models: Laboratory case or hand-held wrist strap version
Range of differential input voltages from ± 0.1 to ± 600 V
Standards compliance up to 600 V-CAT IV (depending on model)
Can be used with all Class 1 type oscilloscopes
Mechanical compatibility with the complete MTX family of oscilloscopes
Compliance with LVD safety standards IEC 61010-1 (2001)
Compliance with EMC standards EN 61326-1 (07/97) + A1 (10/98) + A2 (2001)

TECHNICAL SPECIFICATIONS	MTX1032-C	MTX1032-B	MX9030-Z
PRESENTATION			
Model version	Laboratory case version for independent use or associated mechanically with MTX Oscilloscopes		Hand-held version with wrist strap for independent use
Front-panel controls	Voltage ratio selector switch Battery disconnect switch (MX9030-Z only)		
Display	Power ON - LED display		
INPUTS			
Number of channels	2 differential channels		1 differential channel
Input types	Coaxial connection leads		Banana sockets
Bandwidth	50 Mhz	30 Mhz	30 MHz
Rising time	7 ns	11.7 ns	11.7 ns
Input impedance	1 MΩ // 13pF	1 MΩ // 6pF	2 MΩ // 6 pF
Maximum input volatge	600 V / CAT II	600 V / CAT III	600 V / CAT IV
Voltage ratios	1/10 & 1/100		1/20 & 1/200
Differential voltage ranges	1/10 = ± 0.1V to ± 40 V 1/100 = ± 1V to ± 400 V		1/20 = ± 0.1 V to ± 60 V 1/200 = ± 1 V to ± 600 V
Accuracy of attenuations (1kHz)	± 3 %		
Maximum voltage in common mode	1/10 = ± 50 V 1/100 = ± 600 V		1/20 = ± 100 V 1/200 = ± 600 V
Common mode rejection	80 dB at 50 Hz, 50 dB at 1 MHz		
Measurement leads	2 x removable screened BNC/Banana leads 2.00 m (approx.)		Set(s) of removable banana leads 1.10 m (approx.)
COAXIAL OUTPUTS			
Maximum level	± 4 V with 1 MΩ load		± 3 V with 1 MΩ load
Output impedance	50 Ω		
Noise level	10 mVdc		
Residual offset voltage	< 10 mV		
Coaxial output cables	Removable cables (short) 20 cm approx.		Fixed cables (long) 1.10m approx.
OPERATING MODES			
Oscilloscope type	Class 1 oscilloscope only, with safety earth connection		
For use with coaxial/banana cables	YES	NO	NO
For use with set of banana cables	NO	YES	YES clipped to rear of casing
For use with Oscilloscope Probes	YES	NO	NO
GENERAL SPECIFICATIONS			
Mains power supply	230 VAC ± 10 % 50/60 Hz 300 V - CAT II		N/A
Battery power supply	N/A		1 9 V battery (6LF22, 6LR61)
Consumption / Autonomy	Consumption < 5 W		Autonomy 18 H approx.
Operating temperature	from 0 to 50 °C		
Relative humidity	< 80 % up to 31 °C		
Protection rating	IP 40		
LVD Safety	IEC 61010-1 (2001), Environment: altitude < 2000 m - pollution level 2, for interior use		
EMC	NF EN 61326-1 (07/97) + A1 (10/98) + A2 (2001)		
Dimensions	270 x 250 x 63 mm		163 x 62 x 40 mm
Weight	1,2 kg		195 g (including battery)
Warranty	2 years		

Standard accessoiries:

MX9030-Z = 1 Single-channel probe with BNC output socket, including 1 standard 9 V battery, 1 set of PVC Banana leads 1.10m (P01.2952.37-Z), 1 set of industrial standard crocodile clamps (P01101848), 1 Fitting Accessories Kit for fitting to MTX Oscilloscope (interior of Probe case), 1 user manual.

MTX1032-C = 1 x 2-channel probe in MTX Pack, 2 short BNC leads 20 cm, 1 set of 2 shielded BNC-banana leads 2 m (AG0484), 2 crocodile clamps for Probe (HX0008), 1 European standard mains lead,), 1 fitting accessories kit for fitting to MTX oscilloscope (interior of probe case), 1 user manual.

MTX1032-B = 1 x 2-channel probe in MTX Pack, 2 short BNC leads 20cm, 2 sets of PVC banana leads 1.10 m (P01.2952.37-Z), 1 European standard mains lead, 1 user manual.

Optional accessories (for MTX1032-C):

HX0004 = Safety voltage probe, ratio 1/10, 250 MHz, 1000 V-CAT II / 600 V-CAT III
HX0007 = Hooked wire-grip for probe HX0003 or HX0004
P01.1018.48 = Set of 2 industrial standard crocodile clips for BNC/banana lead connections

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- 2 300 V Cat II insulated measurement channels and up to 4 curves on screen
- Standard real-time FFT analysis and calculation functions on channels
- 2 digital multimeters, TRMS, 8,000-counts, 200 kHz, independent
- Colour or monochrome LCD screen with tactile faceplate
- 30 direct control keys and Windows-like menus on screen
- Multi-interface communication connection: RS232, USB and Ethernet with WEB server (depending on accessories)

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OX 6062, OX 6152, OX 6202:
Digital laboratory oscilloscopes

Technical features	OX 6062E-M * / OX 6062E-C	OX 6152E-C	OX 6202E-C
USER INTERFACE			
Display type	5'' 7 (115 x 86 mm) Colour or B&W LCD* - 320 x 240 –CCFL backlighting (adjustable standby)		
Display mode	500 real acquisition points on screen - Vectors with Interpolation		
Display of curves on screen	4 curves + 4 references - Split Screen & Full Screen mode (110 x 74 trace zone)		
Front panel controls	30 direct access controls & shortcuts – 1 M/A key and standby		
Screen controls	Tactile screen - Windows-like menus and graphic controls		
Choice of language	5 complete languages, menus & on-line help (English, French, German, Italian, Spanish)		
VERTICAL			
Bandwidth	60 MHz	150 MHz	200 MHz
	Bandwidth limiter 20 MHz, 1.5 MHz or 5 kHz		
Number of channels	2 channels		
Input impedance	1 MΩ ± 0.5 %, approx. 15 pF		
Maximum input voltage	300 V/Cat. II - BNC standard - Derating -20 dB/decade from 100 kHz		
Vertical sensitivity	15 ratings from 2.5 mV-100 V/div		
Vertical accuracy	± 2 %		
Vertical zoom	One-click Winzoom system (10-bit converter and graphic zoom directly on screen) - x 16 max		
Probe factors	1/10/100/1,000 or any scaling – definition of measurement units		
HORIZONTAL			
Scanning speed	35 ratings from 1 ns/div to 200 s/div. - Roll mode from 100ms to 200s/div		
Time accuracy	± 0.1 %		
Horizontal zoom	One Click Winzoom system (graphic zoom directly on screen) - x 5 maximum		
ACTIVATION			
Mode	Automatic, Activated, Single-shot, Auto Level 50 %		
Source	CH1, CH2, EXT, LINE		
Type	Front, Pulse width (20 ns-20 s), field TV or line TV (525=NTSC or 625=PAL/SECAM) Continuous adjustment of trigger position		
Coupling	AC, DC, HFR, LFR, noise – adjustable Hold-Off from 160 ns to 30 s		
Sensitivity	≤ 0.6 div to 1 KHz / ≤ 1.5 div at full bandwidth		
DIGITAL MEMORY			
Maximum sampling	10 Ge/s in ETS - 1 Ge/s in single-shot (on each channel)		
Vertical resolution	10 bits (vertical resolution 0.1%)		
Memory capacity per channel	2,500 counts (size of ".TRC" approx. 10 kb, ".TXT" approx. 20 kb) – Maximum capacity approx. 2 Mb		
User memory λ 1 Mb	The ".TRC", ".CFG" and ".FCT" files can be used directly by the instrument.		
Management of "Windows-like" files	Files in Windows format can be used on a PC: ".TXT", ".BMP", ".GIF", etc.		
GLITCH Mode	Duration ≥ 2 ns/1,250 couples Min/Max/valid on all time base speeds		
Other Modes	Enclosure, Averaging (factors 2 to 64)		
XY Mode	Between any two of the 4 curves - mathematical functions & phase measurement		
OTHER FUNCTIONS			
AUTOSET	Complete in less than 5 s, with channel recognition – Frequency > 30Hz		
FFT analyzer & MATH functions	FFT (Lin or Log scales) - Functions + , - , x , / with management of coefficients & units		
Cursors	2 or 3 cursors: Phase or simultaneous V and T – 10-bit resolution, 4-digit display		
Automatic measurements	19 time or level measurements, Phase measurement – 10-bit resolution, 4-digit display		
MULTIMETER (except OX6202E-C)	2 channels – 8,000 counts + bargraph min/max - TRMS – Timestamped graphic recording (5 min to 31 days)		
AC, DC, AC + DC voltage	400.0 mV to 300.0 VRMS or 400.0 VDC - accuracy VDC 0.5 %L+5D – bandwidth 200 kHz		
Resistance	80.00 Ω to 32.00 MΩ - accuracy 0.5 %L + 5D – Fast continuity test 10 ms		
Other measurements	Capacities: 5.000 nF to 5.000 mF / Frequency 200.0 MHz / Temperature (Pt100) / Diode test 3.3 V		

General specifications	
Configuration memories	Unlimited – size of ".CFG" approx. 1kb
Screen shot Network (standard), RS232 (standard), or Centronics (optional accessory)	11 B&W or colour Drivers: IBM Proprinter, Epson ESC/P, Canon HP PCL, Seiko DPU411, Postscript Image files: ".BMP" approx. 10 kb, ".GIF" approx. 5 kb (memory storage, Ethernet or RS232 transfer)
PC communication	10 Mb local Ethernet, RS 232 (maxi 115 kbs) or USB (optional) - 10 Mb remote Ethernet and web server - "Sx-Metro" PC software (optional)
Mains supply	Adjustable standby - Multi-voltage 98-264 V/47-63 Hz/ < 15 W - removable lead
Mechanical features	230 (h) x 185 (l) x 180 (p) mm - 1.4 kg - Protection PF51
Guarantee/Origin	3 years / France

Accessories supplied:

2 1/1-1/10 switchable probes, 1 RS232 lead, 1 cross-strapped Ethernet lead, a line cord and 1 instruction manual.

To order :

OX6062E-M: Digital oscilloscope, 2 x 60 MHz, B&W
OX6062E-C: Digital oscilloscope, 2 x 60 MHz, Colour
OX6152E-C: Digital oscilloscope, 2 x 150 MHz, Colour
OX6202E-C: Digital oscilloscope, 2 x 200 MHz, Colour

906 201 064 - Ed. 01 - 08/06 - Characteristics subject to modifications according to technological developments.

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For assistance and ordering

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- Sampling rate : 1 Gs/s in single-shot and 50 Gs/s in ETS mode
- 2 x 300 V- Cat. II measurement channels and up to **4 curves on screen**
- Standard « real-time » FFT analysis and calculation functions on channels
- 2 independent 200kHz, 8,000-counts, TRMS digital multimeters *
- 30 direct control keys, "**Windows-like**" menus and graphical commands (touch screen)
- **RS232, USB and Ethernet with WEB** server and **FTP** (depending on accessories)
- **Storage on removable high capacity SD Card standard delivered** *

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* : Depending on model – See applicable condition of the lifetime warranty avalaible on www.chauvin-arnoux.com

OX6000, oscilloscope numérique de laboratoire

Technical specifications	OX6062	OX6152	OX6202
HUMAN INTERFACE			
Display screen	Colour or monochrome (depending model) 5'' 7 LCD (115 x 86 mm) - 320 x 240 –CCFL backlighting		
Display mode	500 samples real time acquisition on screen – Vectors with interpolation		
Curve display on screen	4 curves + 4 references - Split Screen & Full Screen modes (tracing zone 110 x 74)		
Front panel control	33 direct shortcuts - 1 start/stop and power-saving button		
Screen control	Touch screen - "Windows-like" menus and graphic commands		
Languages	5 complete languages, menus & on-line help (French, English, German, Spanish, Italian)		
OSCILLOSCPE MODE			
Vertical deviation			
Bandwidth	60MHz	150MHz Bandwidth limit : 15 MHz, 1,5MHz or 5kHz	200MHz
Channels	2 channels, classe 1		
Input impedance	1 MΩ ± 1% , env. 15 pF	1 MΩ ± 1% , env. 15 pF	1 MΩ ± 1% , env. 12 pF
Maximum input voltage	300V CAT II - Derating : -20dB/decade from 100kHz		
Vertical sensivity	15 ranges from 2,5 mV to 100 V/div and up to 156 µV/div in vertical zoom mode (converter 10 bits) – Accuracy ± 2%		
Vertical zoom	Système « One Click Winzoom » (convertisseur 10 bits et zoom graphique direct à l'écran) - x 16 max		
Probes factor	1 / 10 / 100 / 1 000 ou mise à l'échelle quelconque - définition de l'unité de mesure		
Horizontal deviation			
Time base speed	35 calibres de 1 ns/div à 200 s/div., précision ± 0,1% - Mode Roll de 100ms à 200s/div		
Horizontal zoom	« One Click Winzoom » system (direct graphic zoom on screen) x 5 max.		
Trigger circuit			
Mode	Automatic, Triggered, Single and Auto 50%		
Source	CH1, CH4, EXT, EXT/5 and LINE		
Type	Edge, Pulse (20 ns to 20 s), TV frame or N°of line (525=NTSC or 625=PAL/SEC AM) Continuous adjustment of the trigger's position		
Coupling	AC, DC, HFR, LFR, noise – Hold-Off adjustable from 160 ns to 30 s		
Sensivity	≤ 0,6 div at 10 MHz / ≤1,5 div on full bandwidth		
Digital memory			
Maximum sampling speed	50 Gs/s in ETS - 1 Gs/s in single-shot (on each channel)		
Vertical resolution	10 bits (vertical resolution 0,1%)		
Acquisition memory depth	2500 samples/channel		
User memory « Windows Like » files control	2 Mb to store different files : trace, text, configuration, mathematical functions, print files, image files, etc.		
GLITCH mode	Duration ≥ 2 ns - 1250 couples Min/Max		
Display mode	Envelope, Averaging (Factors 2 to 64) and XY (vector)		
Other functions			
AUTOSET	Search time : < 5 s, with channels recognition – Frequency > 30 Hz		
FFT analyser & MATH functions	FFT (Lin or Log) measurement cursors - Functions + , - , x , / with publishing of mathematical functions		
Cursors	2 ou 3 curseurs : V et T simultanés ou Phase – Résolution 10 bits, affichage 4 digits		
Automatic measurements	19 temporal or level measurements, Phase measurements – Resolution : 10 bits – Display : 4 digits		
MULTIMETER MODE (sauf OX6202)			
General characteristics	2 channels – 8000 cts max. + bargraph min/max – TRMS – Time-stamped graphical recording (5 min to 31days)		
AC, DC, AC + DC voltage	300mV to 300VRMS, 400mV to 400VDC - VDC accuracy 0,5%L+5D – Bandwidth 200 kHz		
Resistance	80Ω to 32MΩ - Accuracy 0,5%L+ 25D - Fast continuity test : 10 ms		
Other measurements	Capacitance 5nF to 5mF – Frequency 200 kHz – Diode test 3,3 V		

General specifications	
Configuration memory	Unlimited – « .CFG » file size : approx. 1 kb
Removable memory	µSD Card and adapter SD Card provided (SD* models only) 100 traces, 1000 config. or 200 screenshot for 1Mb
Printing	Ethernet network printing 10 Mb (standard), RS232 (standard), or Centronics (option)
PC communication	Local via Ethernet 10 Mb, RS232 (max. 115 kbs) or USB (option) – « Sx-Metro » application software for PC (option)
Network	Remote via Ethernet 10Mo, Web server (remote, «real-time trace», cursors and automatic measurements) FTP server (file exchange with PC)
Power supply	100 V to 240 V ± 10 % - From 47 to 63 Hz
Security / EMC	Security depending on CEI6101-1 (2001) – CEM depending on EN61326-1
Mechanical characteristics	215 x 190 x 225 mm – 1,2kg
Warranty	3 years (standard versions) or « lifetime warranty » (SD Card versions) / France

DT OX6000SD Ed01 04.2008
Characteristics subject to modifications

To order :

OX6062E-M : Digital oscilloscope, 2 x 60 MHz, B&W
OX6062E-C : Digital oscilloscope, 2 x 60 MHz, Coulour
OX6152E-C : Digital oscilloscope, 2 x 150 MHz, Coulour
OX6202E-C : Digital oscilloscope, 2 x 200 MHz, Coulour
OX6062E-CSD : Digital oscilloscope, 2 x 60 MHz, SD, Coulour
OX6062E-MSD : Digital Oscilloscope, 2 x 60 MHz, SD, B&W
OX6152E-CSD : Digital oscilloscope, 2 x 150 MHz, SD, Coulour
OX6202E-CSD : Digital oscilloscope, 2 x 200 MHz, SD, Coulour

Standard delivery :

1 OX6000 oscilloscope, 2 switchable probes 1/1-1/10, SD memory card 512Mb, 1 RS232 cable, 1 crossed Ethernet cable, 1 power supply cable, 1 user's manual and 1 programming manual on CD-ROM.

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For assistance and ordering

MTX COMPACT Series

«A complete range of high-performance laboratory instruments»

MTX 3250 Multimeter – Analyser
MTX 3240 LF Generator – Tester
MTX 3252 - MTX 3352 - MTX 3354 Oscilloscopes – Analysers

MTX 3252
MTX 3352
MTX 3354
MTX 3240
MTX 3250

So smart you could choose them for their curves!

- Innovative design for effective, comfortable use
- A lightweight, compact casing and a friendly user interface
- A display of unrivalled dimensions and readability
- 100%-digital calibration for high accuracy at a reasonable cost
- Entirely-programmable versions that comply with the SCPI standard
- New intelligent display technology SPO (Smart Persistence Oscilloscope)
- Advantages which make it ideal for Education and Industry

MTX 3250 : the built-in multimeter-analyser

A cutting-edge of multimeter

It all begins with a connection reduced to 3 terminals which limits maneuvers and errors and allows complete current "AUTORANGING" between 50 µA and 20 A. Then with its 3-way display, the MTX 3250 gives measurement combinations that meet current applications simply and efficiently, such as bandwidth measurement (attenuation in dB and frequency display).

- For metrology control, the "SPEC" Mode calculates and displays the instrument's uncertainties according to the ranges and the measured value

- Mode MATH gives a direct reading of the measured quantity, as well as the corresponding physical unit.
- "Surveillance" Mode SURV records the minima and maxima so as to capture and date faults.
- "RELATIVE" Mode, expressed in absolute, percentage or dB (ratio), allows direct terms operation.

Associated features

Like the generator of the same family, the MTX multimeter is an exceptional, multifunctional device. Thanks to its signal analysis, there is no need for the user to use other instruments (an oscilloscope for example) when verifying the measurements made.

The frequent errors, often ignored, due to an excessively high crest factor, are impossible to make. Indeed, the MTX 3250 measures rapid peaks at 500 µs non-stop and lets you know when it finds a fault. Better still, when "AUTO PEAK" Mode is validated, the multimeter automatically switches to the range best suited to the type of signal measured. Since the crest factor is displayed you can also make an initial quantitative diagnosis on signals.

The MTX 3250 is a rational investment for it is also a frequency meter, a thermometer and even a logger, which means that it is not necessary to purchase instruments that you don't use that often. Also for recording up to 4 channels and 12 parameters in the laboratory, the "data logger" version of this multi-purpose instrument offers high-performance service with its associated PC software.

Temperature is measured directly using a Pt 100 or Pt 1000 probe, as is frequency up to 1 MHz, with period and duty cycle.

And in order to meet your expectations regarding automated systems, a 100% programmable version of this instrument exists via an SCPI-compatible, RS232 optical link at 57,600 bauds.

FEATURES

Display	VDC ranges and basic accuracy	VAC ranges and basic accuracy Bandwidth	IDC ranges and basic accuracy	IAC ranges and basic accuracy Bandwidth	Ohm ranges and basic accuracy	Dimensions H x L x W	Interface MTX 3250-P MTX 3250-A
50,000 counts LCD 50 x 140 mm Backlit 3-way display	500 mV - 500 V & 1000 V 0.08%R+3D	500 mV - 600 V 0.5%R+3D (50,000 counts) 100 kHz	500 µA - 500 mA & 10 A 0.2%R+3D	5 µA – 500 mA & 10A 0.5%R+3D 10 kHz	500 - 50 MΩ 0.1%R+3D	170 x 270 x 190 mm Weight: 2.3 kg	Optical RS232 57,600 bauds

- Other measurements: continuity test, diode test, 50 nF – 50 mF capacitance, frequency 1 Hz-1 MHz, duty cycle 0.01% to 100%, temperature – 200 to +800°C, Pt100 and Pt1000.
- PEAK HOLD function: Pk+/- 500 µs on I & V, crest factor
- Additional features: SURV = dated MIN/MAX/MATH =dB, dBm, ax+b/ OFFSET (Offset, nil, delta%) / Data HOLD & Auto HOLD
- Additional features on the MTX 3250-P: PRINT, 0.5 s to 10 h rate, clock and calendar, RS232 optical drive
- Additional features on the MTX 3250-A:DATA LOGGER with 1,500 stored measurements, 1 or 3 values at a time.

Accessories and information for ordering

Standards: safety as per IEC 61010-1, 2001 and EMC as per NF 61326-1, 1998
Warranty: 3 years
The MTX 3250 multimeter is supplied with 1 mains power cable, 1 set of measurement leads, a user's manual and an interactive presentation of the instrument on CD-ROM.

To order

MTX3250	50,000-count Benchtop Multimeter
MTX3250-P	50,000-count Benchtop Multimeter + RS232 Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers on CD-ROM
MTX3250-A	50,000-count Benchtop Multimeter + Logger Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers and the SX-DMM data logger software on CD-ROM

MTX 3240: the stand-alone meter-generator

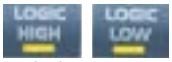
A generator with innovative features

Its advanced technology allows each user to benefit from its new, essential functions:

- Frequency settings – guarantees stability to the nearest digit, and intelligent accelerator with automatic range change for frequency

- Automatic range changing optimised for "LEVEL and OFFSET" amplitude

- Variable duty cycle with fixed frequency
- •"LOGIC " function



for a fast and simple solution to generating logic signals with directly adjustable thresholds

- A rugged generator with protected 60 VDC / 40 VDC outputs

Combined functions

Another advantage of these innovations: complete functionality. The MTX 3240's combined functions enable autonomous operation which means that, when simply testing settings, you can avoid the systematic use of an oscilloscope or multimeter.

- Frequency control loop and display
- AMPLITUDE VPP (peak/peak) and OFFSET VDC check and display
- Duty cycle check and display

The MTX 3240 is also a rational investment for it is also a 100 MHz frequency meter (300 V CAT I), which means that it is not necessary to purchase an instrument for occasional use.

And in order to meet the user's requirements in terms of automated systems in an economical way, a 100% programmable version of this generator is available, using a rapid, SCPI-compatible link.

MTX 3240 avec fréquencemètre intégré

FEATURES								
Display	**Frequency range**	**Signal forms**	**Outputs**	**Sweep**	**External frequency meter**	**Power supply**	**Dimensions HxLxW**	**Interface MTX 3240-P**
LCD 50x 140 mm Main display 20 mm 4 variables at a time	0.1 Hz to 5.1 MHz 7 ranges + fine-tuning to the nearest digit + accelerator Accuracy: 0.05%	Sine, square, triangle, pulse, ramp, TTL, LOGIC Distortion < 0.5%	1/ Main: up to 20 VPP open circuit, automatic range 2/ TTL Protection: overload 60 VDC / 40 VAC	LIN or LOG CONTINU 1 / 50 min 10 ms to 10 s internal or external	0.1 Hz to 100 MHz Accuracy: 0.05% Input CAT I 300 V Automatic sensitivity	115 V – 230 V – 240 V 50 / 60 Hz CAT II 300 V	170X270X 190 mm Weight/ 2.8 kg	Optical RS232

Accessories and information for ordering

Standards: safety as per IEC 61010-1, 2001 and EMC as per NF 61326-1, 1998
Warranty: 3 years
The MTX 3240 generator is supplied with a mains power cable, a user's manual and a interactive presentation of the instrument on CD-ROM

To order

MTX3240	Functions Generator 5.1 MHz
MTX3240-P	Functions Generator 5.1 MHz + RS232 Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers on CD-ROM

MTX3252, MTX3352 and MTX3354: 2 or 4-channel oscilloscopes – analysers, 60 to 150 MHz!

Man-Machine Interface, simplicity serving performance

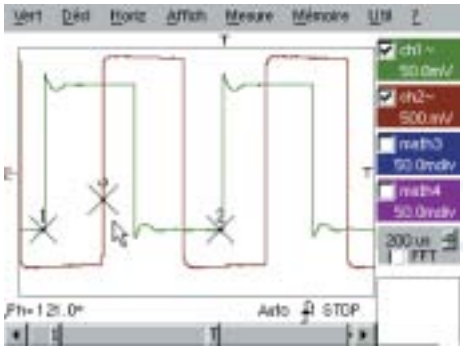
- The instrument can be controlled using the mouse or the keyboard
- Simplified, user-friendly adjustments using the 21 direct-access keys on the front panel and the "Windows-like" environment
- Detailed online help in 5 languages available at all times with the key
- These instruments are lightweight and compact and are equipped with a handle. A special “Site Kit” is available allowing the oscilloscope to be implemented without removing it from its carrying bag

Communication experts

- Equipped with an RS232 link, a Centronics interface and a USB connection for communicating with a PC or printer
- Remote management due to the Ethernet link and the HTML server included in each instrument

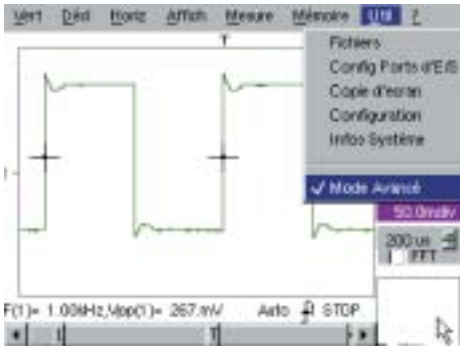
Display

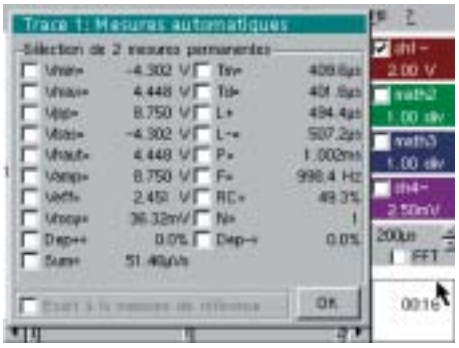
- Cursors can be positioned on the signals at any time for precise measurements.



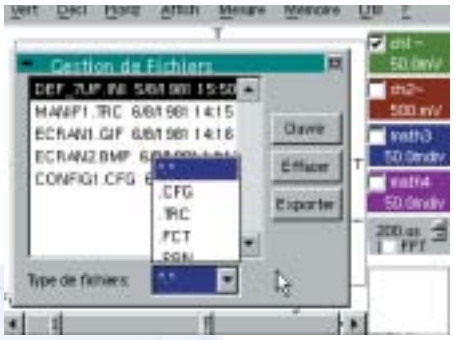
- Thanks to its 50,000-point memory depth, the "Winzoom" horizontal trace zoom can enlarge up to x100 by displaying the actual points acquired.
- An exceptional vertical dynamic range from 2.5 mV to 100 V per div.
- The "full trace" function allows you to split the screen in two in order to make it easier to read the curves.
- Up to 4 curves displayed on the screen and possibility of making comparisons between two curves.
- To simplify and save considerable time, users can select and display 2 automatic measurements among 19.

- Complex analysis functions are accessible in "advanced" mode; in "standard" mode, these are masked to keep the display simple.





MTX3252, MTX3352 and MTX3354:
2 or 4-channel oscilloscopes – analysers, 60 to 150 MHz!



A vast memory for recording

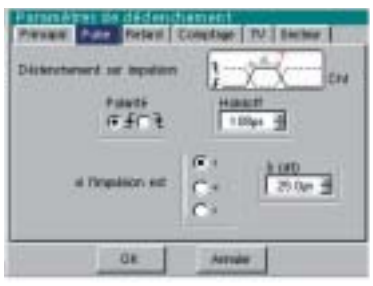
- The 50,000-point memory depth is a reference in this category of oscilloscopes
- Recording duration and sampling frequency 20 times higher than a traditional oscilloscope
- The oscilloscopes in the MTX COMPACT range possess an exceptional resolution of 100 GS/s in repetitive mode and 200 MS/s in one-shot mode, allowing time base calibres ranging from 200 s/div to 1ns/div.
- Recording and on-screen retrieval of curves
- Possibility of saving files in the instrument and printing them or exporting them onto a PC for subsequent processing in "Windows" applications (reports, spreadsheets, printing, images, etc.)
- The traces and files recorded are time/date-stamped
- The files are generated in standard formats: .gif, .pcl, .txt, .bmp, .eps, .prn, etc.

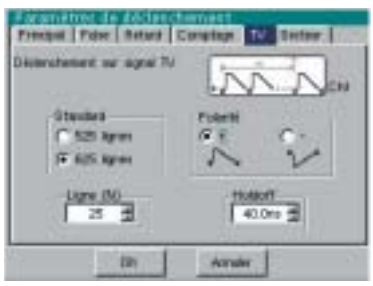
Integrated instruments for a "global tool"

- All the oscilloscopes are equipped with a function for real-time, multi-channel FFT analysis of the signal
- For Electrical Engineering users, we also propose 31-order multi-channel harmonic analysis as an option
- Lastly, for people who need to monitor the variations of physical or mechanical phenomena over time, a fast digital recorder can be integrated into the instrument as a software module

Performance within everyone's reach

- The oscilloscopes in the MTX COMPACT range possess a 5.7" colour LCD with backlighting for excellent reading accuracy
- There is a wide choice as MTX COMPACT offers three 2 and 4-channel instruments with bandwidths of 60MHz, 100MHz or 150MHz which are ideal for both Education and Industry
- There are 5 different trigger modes: **Pulse**, trigger on pulse width, **Delay**, trigger on pulse edges with delay, **TV**, trigger on TV signal, **Count**, trigger on edges with counting of events, and **Mains**, trigger on rising or falling edge of the 50/60Hz mains voltage
- As well as these multiple parameterization modes, Hold-off is available on the majority of these trigger functions
- SPO, an “analogue-type” display technology capable of showing the changes in the signal (modulations, jitters, etc.) and the one-off phenomena (transients, glitches, etc.)





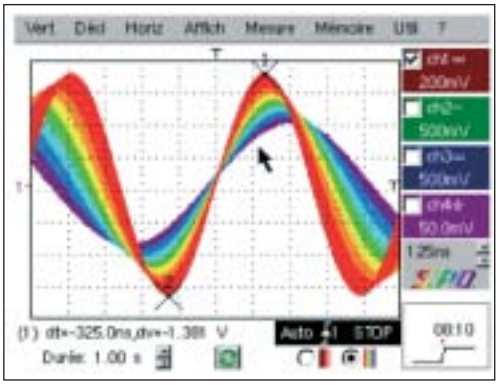
metrix

SPO, Smart Persistence Oscilloscope: An essential tool for smart display!

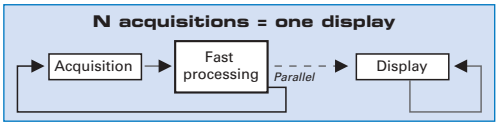
The new generation of MTX COMPACT oscilloscopes is equipped with an " SPO " mode which can be used, like an analogue model, to show the changes in the signal over time, such as jitters, modulations and unstable phenomena.
This display mode can also be used to reveal one-off phenomena such as transients and glitches.

SPO technology

The " SPO " technology allows the acquisitions to persist for a preset duration so that cumulated traces can be observed. The brightness or colour assigned to the point on the screen will fade if it is not renewed during a subsequent acquisition.

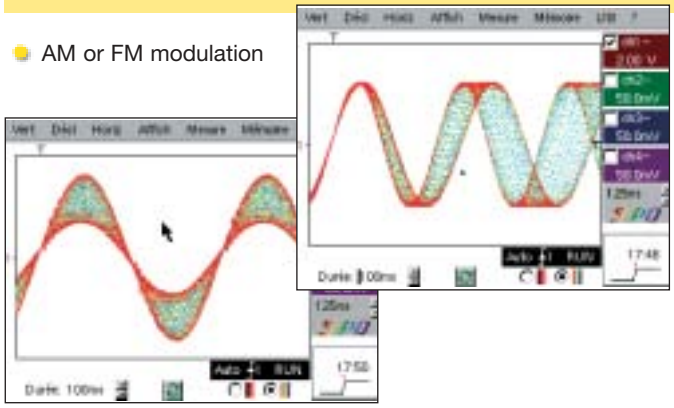


- Acquisition therefore takes place in three dimensions:
  - time
  - amplitude
  - occurrence
- Thanks to its 50,000-point memory depth, the oscilloscope acquires and processes the information in parallel
- The number of acquisitions per second can be multiplied by more than 1,000, thus considerably reducing the time between successive acquisitions
- On-screen representation of the 50,000 points acquired by means of a smart compression system
- The "occurrence" dimension provides a statistical view of the distribution of the samples. The colour or brightness shows the irregularities of the signal
- Display durations for the points acquired: 100ms, 200ms, 500ms, 1s, 2s, 5s, 10s and infinite.

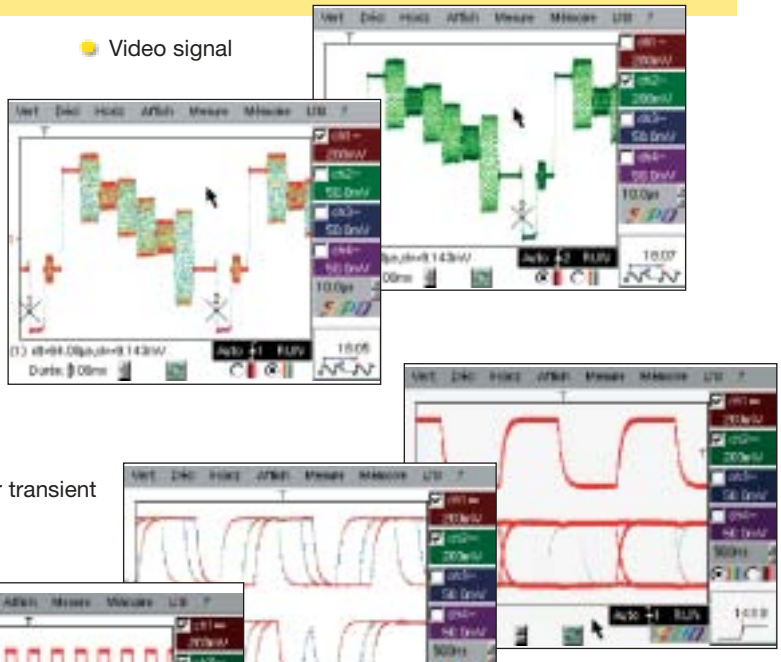


Applications

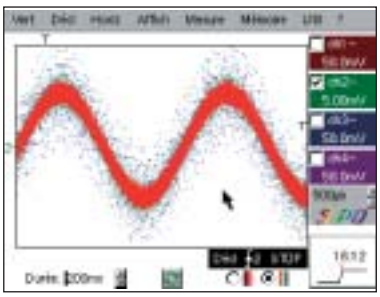
- AM or FM modulation



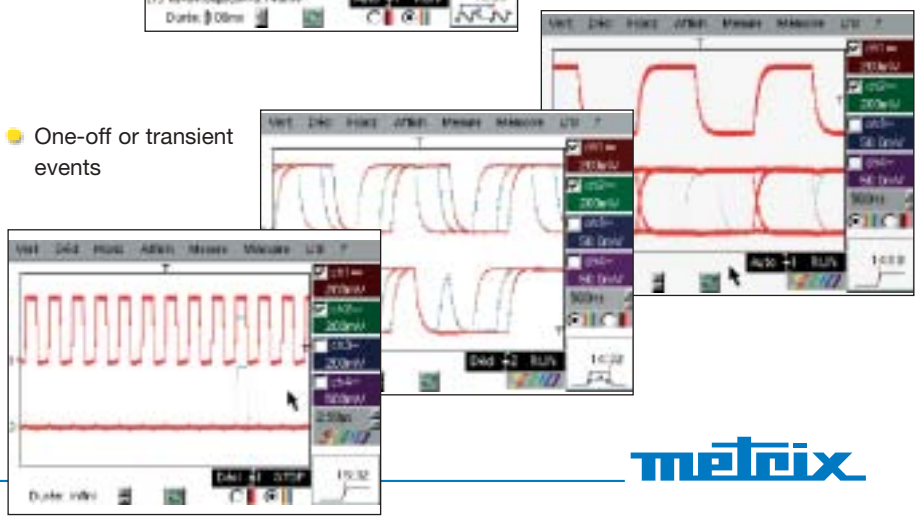
- Video signal



- Noise characterization



- One-off or transient events



MTX3252, MTX3352 & MTX3354 :
60, 100 and 150MHz Oscilloscopes – Analysers

FEATURES	MTX 3354	MTX 3352	MTX 3252
Man-Machine Interface			
Display	5.7" colour LCD (115 x 86 mm) 320 x 240 + CCFL backlighting	5.7" monochrome or colour LCD (115 x 86 mm) – 320 x 240 + CCFL backlighting	
Number of curves on screen	4 curves + 4 references		
Commands	21 direct shortcut keys + 1 encoder + 1 "help" key "Windows-like" menu – all commands accessible using the mouse Choice of language via the menu (FRA/ENG/SP/IT/GER)		
Vertical Deflection			
Bandwidth	150 M (15 MHz, 1.5 MHz and 5KHz bandwidth limiter)	100 MHz (15 MHz bandwidth limiter)	60 MHz (15 MHz bandwidth limiter)
Number of channels	4 channels – class 1 – CAT II 300V	2 channels – class A – CAT II 300V	
Sensitivity	2.5 mV to 100 V/div + vertical expansion up to x10 (max. sensitivity 250 µV/div)	2.5 mV to 100 V/div + "Winzoom" vertical expansion up to x10	
Rise time	< 3 ns	< 3.5 ns	
Horizontal Deflection			
Sweep rate	1 ns to 200 s/div – Graphic "Winzoom" function up to x100		
Trigger			
Modes	AAuto, Normal, One-shot, Auto 50%		
Types	Edge, Pulse Width, Delay, Event Counting, TV Line Counter, Hold-off		
Sources	CH1, CH2, CH3, CH4, Mains	CH1, CH2, EXT and Mains	
Digital Memory			
Max. sampling rate	Repetitive = 100 GS/s One-shot = 200 MS/s 9-bit converter		
Memory depth	50,000 points – 4 references + 16 curves of 50 kpts		
Display modes	Glitch, Envelope, Averaging, Digital XY		
SPO (Smart Persistence Oscilloscope)			
Duration	100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s 100 s and Infinite		
Display	Monochrome or colour		
Acquisition rate	50 kwaveform/s max. per channel – 19 MS processed per s and per channel		
Recorder mode			
Acquisition rate	Sampling interval from 40 µs to 54 µs (2 s to 31 days' recording)		
Processing	Direct time/date-stamping, conversion and units of physical quantities, measurements using cursors and event search function, files usable in standard spreadsheet software		
Harmonic analyseur mode			
Analysis range	31 orders simultaneously on 1 to 4 channels		
Processing	Permanent display: RMS value of THD – Selected order: %F, phase, freq, Vrms		
Interface	RS232, Centronics, USB, Ethernet with HTML server		
General specifications			
Casing	210 x 177 x 200 – 2.5 Kg – IP30		
Power supply	100 to 240 VAC – 47 to 63 Hz		
Safety	IEC 1010-1 (2001) – Power supply overvoltage CAT II 240 V – Overvoltage on measurement inputs CAT II 300V		
EMC	NF EN 61326-1 07/97 + A1 10/98		

To order :

- **MTX3354E-C** : 4 channels Digital Oscilloscope-analyser, Colour 150 MHz, Ethernet
- **MTX3354E-CK** : MTX3354E-C + SX-METRO/P Software
- **MTX3252BE-C** : 2 channels Digital Oscilloscope-analyser, Colour 60 MHz, Ethernet
- **MTX3352BE-C** : 2 channels Digital Oscilloscope-analyser, Colour 100 MHz, Ethernet
- **MTX3252BED** : MTX3252BE-C + differential probe MTX1032-B
- **MTX3352BED** : MTX3352BE-C + differential probe MTX1032-C

Efficiency displayed with elegance

An attractive structure and a shape that makes room

The MTX family's appealing and modern design, which is especially compact, will fit perfectly into your workspace.

Placed directly on a counter top, their design leaves great room in front of them. Their height has been calculated so they fit nicely in half-shelf spaces. Having a standard length and not very deep, they can be placed on top of another instrument.

Since they have a built-in handle and are light in weight, these instruments are easy to displace and carry.

A leader in technology, innovative to the fingertips

The qualities of the MTX are not limited to their looks.

With the latest 16 or 32-bit microprocessors, downloadable software and 100% digital calibration, these instruments are smart too. As for safety, resettable electronic protection eliminates the need for the mains fuse on certain models.

All the models in the MTX Compact family can be fitted with high-performance communications interfaces and communication standard SCPI.

Even the selection keyboard is the latest technology with its microswitch contacts that have an exceptionally long life span: more than 100,000 maneuvers. The markings on the keys are made with permanent laser engraving.

With the MTX family, Metrix makes it possible for each professional to access instruments which are the best of the best.

A user-friendly, man-machine interface with exceptional readability

Even at a distance or in poor light (sun, neon), the measurements are perfectly readable, perfectly legible thanks to its large (50 x 140 mm), dark background display and adjustable led-matrix backlighting as well as the exceptional height of the main display of 20 mm (MTX 3240 and MTX 3250).

The very attractive adjustable LCD screen of the MTX 3352 and MTX 3252 is available in monochrome and colour versions, with also excellent readability.

Situated on the front panel, the operations zones of the whole MTX Compact family are large, coherent, and organized; and the measurement connections are easily accessible.

On the generator and multimeter, primary functions are selected directly with keys that are marked with their function and a led. A high-performance encoder makes it possible to make settings, and contextual keys located at the edge of the screen clearly show the configuration.

In addition to direct access via the keyboard, the oscilloscope is also controlled via the mouse, under a "Windows-like" environment, facilitating learning. Unprecedented in this device category.

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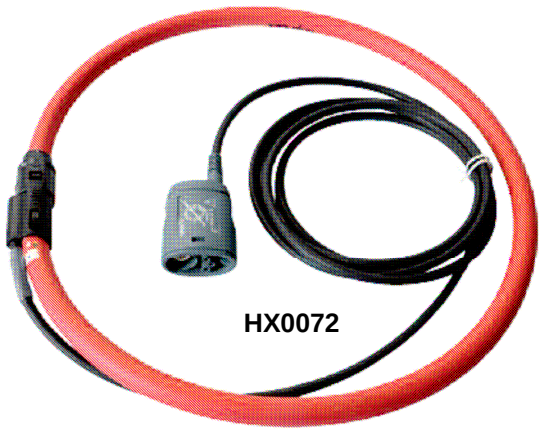
For assistance and ordering

AD.COM- Code : 906211055 - Ed.4 - 12/2007 - • Non contractual document. Confirm specifications before ordering.

OX 7042
OX 7104

Scopix II « Power », portable and self-contained digital oscilloscope, 40 or 100MHz, for « Electrical power » field

HX0073



HX0072

HX0034

A unique instrument of multifunction diagnostic with isolated channels and, accessories and applicative module for your power measurements !

- 5 complementary tools in one : **OSCILLOSCOPE ; FFT ANALYSER ; MULTIMETER / WATTMETER ; HARMONICS ANALYSER** voltage/current/power **; RECORDER**
- Sampling rate 1Gs/s in single-shot and 50Gs/s in ETS
- **New - Memory depth of 50k** per channels in Oscilloscope and Recorder modes
- 2 or 4 isolated measurement channels, 600V CATIII, and up to 8 curves on screen
- 2 ou 4 digital multimeters, TRMS, 8000 counts, 200kHz, independents
- **New - Trigger on thresholds** of measures in Multimeter and Oscilloscope modes
- Colour LCD touch screen and “Windows like” menus on screen
- Probix input terminals (plug & play) and associated smart sensors
- **New - Current probes HX0072 et HX0073 supplied by the instrument, provided**
- **New – For your power measurements, applicative module HX0075, installed**
- Multi-interface communication connector : RS232, USB, centronics and Ethernet
  New - Web server with cursors et automatic measurements, FTP server/client

metrix®

Scopix II Power, portable digital oscilloscope « Electrical power » field

Technical specifications	OX7042	OX7104
HUMAN INTERFACE		
Display screen	Colour 5'' 7 LCD (115 x 86 mm) - 320 x 240 –CCFL backlighting	
Display mode	500 samples real time acquisition on screen – Vectors with interpolation	
Curve display on screen	4 curves + 4 references - Split Screen & Full Screen modes (tracing zone 110 x 74)	
Front panel control	33 direct shortcuts - 1 start/stop and power-saving button	
Screen control	Touch screen - "Windows-like" menus and graphic commands	
Languages	5 complete languages, menus & on-line help (French, English, German, Spanish, Italian)	
OSCILLOSCOPE MODE		
Vertical deviation		
Bandwidth	40MHz Bandwidth limit : 15 MHz, 1,5MHz or 5kHz	100MHz
Channels	2 isolated channels	4 isolated channels
Maximum input voltage	600 V / CAT III - Probix security connectors - Derating : -20dB/decade from 100kHz	
Vertical sensivity	16 ranges from 2,5 mV to 200 V/div and up to 156 µV/div in vertical zoom mode (12 bits converter) – Accuracy ± 1%	
Vertical zoom	« One Click Winzoom » system (12 bits converter and direct graphic zoom on screen) - x 16 max	
Probes factor	1 / 10 / 100 / 1 000 or scaling to any value – Definition of the measurement unit	
Horizontal deflection		
Time base speed	35 ranges from 1 ns/div to 200 s/div., accuracy ± 0,1% - Roll mode from 100ms to 200s/div	
Horizontal zoom	« One Click Winzoom » system (direct graphic zoom on screen) up to x100	
Trigger circuit		
Mode	On all channels : automatic, triggered, single, auto 50%	
Type	Edge, Pulse (20 ns to 20 s), Delay (120ns to 20s), Count (3 to 16384 events), TV frame or N°of line (525=NTSC or 625=PAL/SECAM) – Continuous adjustment of the trigger's position	
Coupling	AC, DC, HFR, LFR, noise – Hold-Off adjustable from 160 ns to 30 s	
Sensivity	≤ 0,6 div at 1 KHz / ≤1,5 div on full bandwidth	
On measuring window	Starting from one of the 16 automatic measurements - Acquisition and fault automatic stored	
Digital memory		
Maximum sampling speed	50 Gs/s in ETS - 1 Gs/s in single-shot (on each channel)	
Vertical resolution	12 bits (vertical resolution 0,025%)	
Acquisition memory depth	50,000 samples/channel	
User memory « Windows Like » files control	2 Mb to store different files : trace, text, configuration, mathematical functions, print files, image files, etc.	
GLITCH mode	Duration ≥ 2 ns – 25,000 couples Min/Max	
Display mode	Envelope, Averaging (Factors 2 to 64) and XY (vector)	
Other functions		
AUTOSET	Search time : < 5 s, with channels recognition – Frequency > 30 Hz	
FFT analyser & MATH functions	FFT (Lin or Log) measurement cursors - Functions + , - , x , / with publishing of mathematical functions	
Cursors	2 or 3 cursors : V and T simultaneous or Phase – Resolution : 12 bits - Display : 4 digits	
Automatic measurements	19 temporal or level measurements, Phase measurements – Resolution : 12 bits – Display : 4 digits	
MUMTIMETER MODE		
General specifications	2 or 4 channels – 8000 cts max. + bargraph min/max – TRMS – Time-stamped graphical recording (5 min to 31days)	
AC, DC, AC + DC voltage	300mV to 600VRMS, 400mV to 800VDC - accuracy VDC 0,5%L+5D – bandwidth 200 kHz	
AC, DC, AC + DC current	Automatic scaling and unities + supply for current sensors Probix (HX0034, HX0072, HX0073)	
Active power & DPF	Single-phase - Balanced three-phase (Ox7104) with or without neutral and using the 2-wattmeter method	
Resistance	80Ω to 32MΩ - Accuracy 0,5%L+ 25D – Fast continuity test : 10 ms	
Others measurements	Temperature (HX0035=TC K, HX0036=Pt100) / Capacitance 5nF to 5mF / Frequency 200 kHz / Diode test 3,3 V	
Measuring window triggering	2 or 4 channels guarded, Configurable default duration – Up to 100 time-stamped default stored in « .TXT » files	
HARMONICS ANALYSER MODE	**(Installed)**	
Multi channel analysis	2 or 4 (depending on model), 61 orders, Fundamental frequency from 40 to 450Hz in auto or manual mode	
Simultaneous measurements (U / I)	Total RMS value, THD and selected order (fundamental %, phase, frequency, RMS value)	
Single-phase and balanced three-phase power	Analysis of harmonics on the apparent power, with indication of "received/transmitted" for each order	
RECORDER MODE (installed)		
Duration / Sampling rates	From 2 s to 1 month / From 40 µs to 53 s	
Recording conditions	On thresholds or windows, simultaneous conditions on several channels, with configurable duration from 160 µs	
Recording analysis	Scales et physic units, Automatic or cursor measurements, Time-stamped default searching, zoom, etc…	
General specifications		
Configuration memory	Unlimited – « .CFG » file size : approx. 1 kB	
Printing	Ethernet network printing 10 Mb (standard), RS232 (standard), or Centronics (option)	
PC communication	Local via Ethernet 10 Mb, RS232 (max. 115 kbs) or USB (option) – « Sx-Metro » application software for PC (option)	
Network	Remote via Ethernet 10Mo, Web server (remote, «real-time trace», cursors and automatic measurements) FTP server (file exchange with PC) , FTP client (storage on PC hard disk – unlimited capacity)	
Power supply	NiMh batteries – Approx. 4H between charges – Adjustable power-saving switching Adapter / Fast charge / Multi-voltage (standard) - 98-264 V / 47-63 Hz / < 15 W	
Security / EMC	Security depending on CEI6101-1 (2001) – CEM depending on EN61326-1	
Mechanical characteristics	265 x 195 x 56 mm - 1,9 kg with batteries - IP51 protection (IP41 for the OX7104)	

DT Scopix II Power Ed01 09.2008
Characteristics subject to modifications

For ordering

OX7042BP-CK : 40MHz portable digital oscilloscope Scopix kit for « Electric power » field
OX7104BP-CK : 100MHz portable digital oscilloscope Scopix kit for « Electric power » field

Standard delivery

1 oscilloscope, software options HX0028/HX0029/HX0075/HX0077 installed, 1 user's manual and remote programming on CD-ROM, 1 adapter / line charger, 1 NiMH batterie pack, 2 Probix 1/10 probes with industrial accessories kit, 2 BNC Probix adapters, 2 Probix AmpFlex and MiniAmpFlex current probes, 1 banana Probix adapter with 1 leads kit, , 1 crossed and 1straight Ethernet cord,
1 RS232 cable, 1 SX-METRO data processing software and 1 carrying case

CHAUVIN ARNOUX GROUP

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OX 7042
OX 7062
OX 7102 - OX 7102
OX 7202 - OX 7204

Scopix II, portable and self-contained digital oscilloscope 40 to 200MHz

From the laboratory to the field, from diagnostic to appraisals, for desktop and portable use, a unique instrument !

- 5 complementary tools in one : **OSCILLOSCOPE** ; **MULTIMETER** ; **FFT ANALYSER** ; **HARMONIC ANALYSER** AND **RECORDER**
- **Bandwidth up to 200MHz, 2 or 4-channel models** *new*
- **Sampling rate up to 2.5Gs/s in single-shot** and 50Gs/s in ETS *new*
- **Memory depth of 50k** per channel (OSCILLOSCOPE & RECORDER) **(option)** *new*
- 2 or 4 isolated measurement channels, 600V CATIII, and up to 8 curves on screen
- “Real time” FFT analysis standard and calculation functions on the channels
- 2 or 4 digital multimeters, TRMS, 8,000 counts, 200kHz, independent
- **Trigger on thresholds of measures in multimeter and oscilloscope modes** *new*
- Colour or monochrome LCD touch screen
- 33 direct command keys and “Windows like” menus on screen
- Probix input terminals (plug & play) and associated smart sensors
- Multi-interface communication connector : RS232, USB, centronics and Ethernet
- **Large storage capacity on removable SD-Card (Ox7202 & Ox7204)** *new*
- **WEB server with cursors et automatic measurements, FTP server/client** *new*

metrix®

Scopix II, portable digital oscilloscope

Technical specifications	OX7042	OX7062	OX7102	OX7202 (1)	OX7104	OX7204 (1)
HUMAN INTERFACE						
Display screen	Colour or monochrome (depending model) 5'' 7 LCD (115 x 86 mm) - 320 x 240 –CCFL backlighting or Colour 5'' 7 TFT LCD (115 x 86 mm) - 320 x 240 – LED backlighting (1)					
Display mode	500 samples real time acquisition on screen – Vectors with interpolation					
Curve display on screen	4 curves + 4 references - Split Screen & Full Screen modes (tracing zone 110 x 74)					
Screen control	Touch screen - "Windows-like" menus and graphic commands					
Languages	5 complete languages, menus & on-line help (French, English, German, Spanish, Italian)					
OSCILLOSCOPE MODE						
Vertical deviation						
Bandwidth	40MHz	60MHz	100MHz	200MHz	100MHz	200MHz
	Bandwidth limit : 15 MHz, 1,5MHz or 5kHz					
Channels	2 isolated channels				4 isolated channels	
Input impedance	1 MΩ ± 0,5% , 17pF approx.					
Maximum input voltage	600 V / CAT III - Probix security connectors - Derating : -20dB/decade from 100kHz					
Vertical sensivity	16 ranges from 2,5 mV to 200 V/div and up to 156 µV/div in vertical zoom mode (12 bits converter) – Accuracy ± 1%					
Vertical zoom	« One Click Winzoom » system (12 bits converter and direct graphic zoom on screen) - x 16 max					
Probes factor	1 / 10 / 100 / 1 000 or scaling to any value – Definition of the measurement unit					
Horizontal deflection						
Time base speed	35 ranges from 1 ns/div to 200 s/div., accuracy ± 0,1% - Roll mode from 100ms to 200s/div					
Horizontal zoom	« One Click Winzoom » system (direct graphic zoom on screen) x1 to x5 and up to x100 with « Extended Memory Acquisition » option					
Trigger circuit						
Mode	On all channels : automatic, triggered, single, auto 50%					
Type	Edge, Pulse (20 ns to 20 s), Delay (120ns to 20s), Count (3 to 16384 events), TV frame or N° of line (525=NTSC or 625=PAL/SECAM) – Continuous adjustment of the trigger's position					
Coupling	AC, DC, HFR, LFR, noise – Hold-Off adjustable from 160 ns to 30 s					
Sensivity	≤ 0,6 div at 1 KHz / ≤1,5 div on full bandwidth					
On measuring window	Starting from one of the 16 automatic measurements - Acquisition and fault automatic stored					
Digital memory						
Maximum sampling speed	50 Gs/s in ETS – 2.5Gs/s (1) or 1 Gs/s in single-shot on each channel					
Vertical resolution	12 bits (vertical resolution 0,025%)					
Acquisition memory depth	2500 samples/channel and up to 50000 samples/channel with the « Extended Acquisition Memory » option					
User memory « Windows Like » files control	2 Mb to store different files : trace, text, configuration, mathematical functions, print files, image files, etc… + removable large storage capacity SD-Card (512Mo to 2Go) for Ox7202 & Ox7204					
GLITCH mode	Duration ≥ 2 ns - 1250 couples Min/Max (up to 25000 couples with the « Extended Acquisition Memory » option)					
Display mode	Envelope, Averaging (Factors 2 to 64) and XY (vector)					
Other functions						
AUTOSET	Search time : < 5 s, with channels recognition – Frequency > 30 Hz					
FFT analyser & MATH functions	FFT (Lin or Log) measurement cursors - Functions + , - , x , / with publishing of mathematical functions					
Cursors	2 or 3 cursors : V and T simultaneous or Phase – Resolution : 12 bits - Display : 4 digits					
Automatic measurements	19 temporal or level measurements, Phase measurements – Resolution : 12 bits – Display : 4 digits					
MUMTIMETER MODE						
General specifications	2 or 4 channels – 8000 cts max. + bargraph min/max – TRMS – Time-stamped graphical recording (5 min to 31days)					
AC, DC, AC + DC voltage	300 mV to 600VRMS, 400MV to 800VDC - VDC accuracy : 0,5%L+5D – Bandwidth 200 kHz					
Resistance	80Ω to 32MΩ - Accuracy 0,5%L+ 25D – Fast continuity test : 10 ms					
Others measurements	Capacitance 5nF to 5mF – Frequency 200 kHz – Diode test 3,3 V					
Measuring window triggering	2 or 4 channels guarded, Configurable default duration – Up to 100 time-stamped default stored in « .TXT » files					
HARMONICS ANALYSER MODE	**(option)**					
Multi channel analysis	2 or 4 (depending on model), 61 orders, Fundamental frequency from 40 to 450Hz in auto or manual mode					
Simultaneous measurements	Total Vrms, THD and selected order (fundamental %, phase, frequency, Vrms)					
RECORDER MODE (option)						
Duration / Sampling rates	From 2s to 1 month / from 800 µs to 18 min (from 40 µs to 53 s with the « Extended Memory Acquisition option)					
Recording conditions	On thresholds or windows, simultaneous conditions on several channels, with configurable duration from 160 µs					
Recording analysis	Scales et physic units, Automatic or cursor measurements, Time-stamped default searching, zoom, etc…					
General specifications						
Configuration memory	Unlimited – « .CFG » file size : approx. 1 kB					
Printing	Ethernet network printing 10 Mb (standard), RS232 (standard), or Centronics (option)					
PC communication	Local via Ethernet 10 Mb, RS232 (max. 115 kbs) or USB (option) – « Sx-Metro » application software for PC (option)					
Network	Remote via Ethernet 10Mo, Web server (remote, «real-time trace», cursors and automatic measurements) FTP server (file exchange with PC) , FTP client (storage on PC hard disk – unlimited capacity)					
Power supply	NiMh batteries – Approx. 4H between charges – Adjustable power-saving switching Adapter / Fast charge / Multi-voltage (standard) - 98-264 V / 47-63 Hz / < 15 W					
Security / EMC	Security depending on CEI6101-1 (2001) – CEM depending on EN61326-1					
Mechanical characteristics	265 x 195 x 56 mm - 1,9 kg with batteries - IP51 protection (IP41 for the Ox7104 & Ox7204)					

Standard delivery

1 oscilloscope, 1 pointing device, 1 handling strap, 1 user's manual et 1 remote programming on CD-ROM, 1 adapter / line charger, NiMH batteries pack, 1 µSD-Card and SD-Card adapter (minimum capacity 512Mo) (1), 1 or 2* Probix 1/10 probes, 1 ou 2* BNC Probix adapters, 1 banana Probix adapter, 1 banana set of cords, 1 crossed Ethernet cord, 1 straight Ethernet cord *, 1 RS232 cable, SX-METRO data processing software * and 1 carrying case *

* « kit » version in carrying case, (1) Ox7202 and Ox7204 only.

DT Scopix II Ed02 03.2009
Characteristics subject to modifications

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Virtual MTX Series

SCOPEin@BOX Digital Analyser-Recorder Oscilloscopes
MTX 1032-B & MTX 1032-C Differential Probes
MTX 1050-PC Spectrum Analyser

Offering high performance at low cost, the new virtual MTX digital measurement instruments are at the cutting edge of technology!

- **SCOPEin@BOX oscilloscopes with FFT analysis, harmonic analysers and recorders**
  - 2 or 4 channels / 150 MHz
  - Vertical sensitivity 250 µV-100 V/div
  - Advanced trigger modes and SPO analysis

- **MTX 1032 differential probes for measuring signals not referenced to earth**
  - Input voltage 600 V and 600 Vrms in common mode,
  - Attenuation 1/10 and 1/100
  - Bandwidth 50 MHz and 30 MHz

- **MTX 1050-PC 400 kHz – 1 GHz spectrum analyser**
  - Suitable for EMC prequalification tests,
  - Built-in FM demodulator

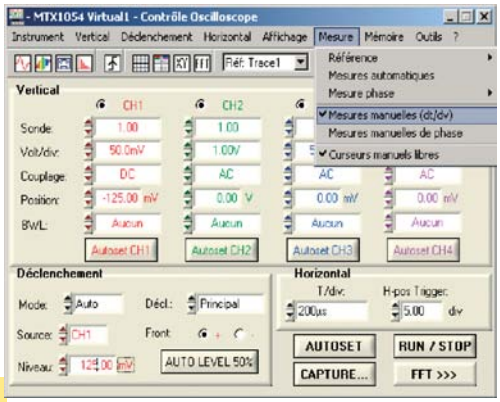
SCOPEin@BOX Digital Analyser-Recorder Oscilloscopes

Ergonomics

The **SCOPEin@BOX** models are genuine "oscilloscopes in a box". They are easy to use and transport and require minimum space. Compact and lightweight, the casings can be stacked. These virtual measurement instruments operate by means of PC software. Indeed, the **SCOPEin@BOX** models and the **MTX 1050-PC** are connected directly to a PC via a USB interface. In this way, users can enjoy all the advantages of a PC in terms of storage capacity and display. Accessible to all users, the Windows environment simplifies use of the oscilloscope

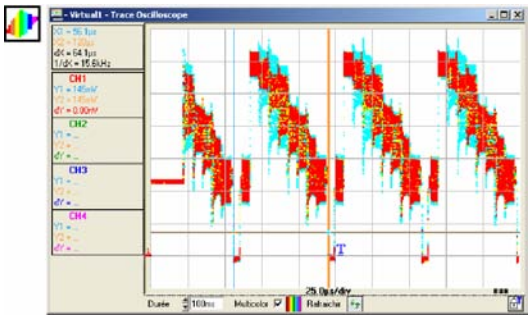
Simplified use

All the **SCOPEin@BOX** functions are accessible directly via “Windows” menus and “Windows” toolbars. Users control the oscilloscope via the “instrument” control panel. This contains a list of the commands, which are identical to those on a normal oscilloscope: instrument, vertical, trigger, measurement, etc. **“Unlimited” storage** of the measurements can be carried out by simply saving files in one of the various formats proposed: “.TRC”, “.TXT”, “.CFG”, “.FCT”, “.JPG”, etc



>> SCOPEin@BOX CONTROL PANEL
General Commands

Display

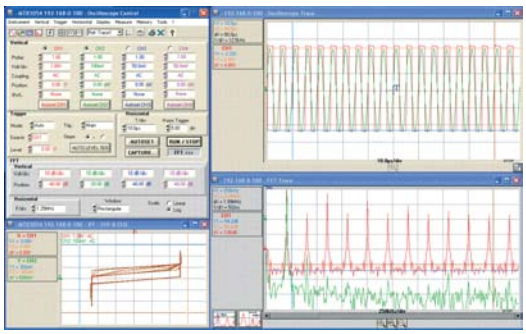


>> SCOPEin@BOX,
Display of “X(t)” traces in “SPO” mode

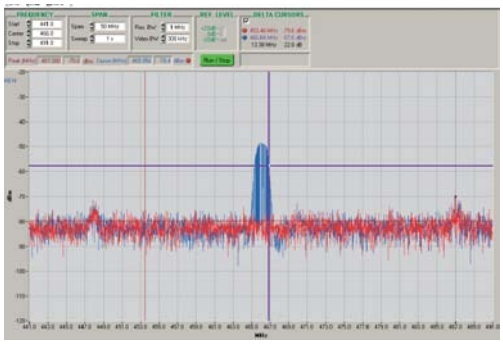
The **SCOPEin@BOX** models offer multi-windowing, simultaneous display of the traces, the zoom, the FFT analysis, the measurements, etc. In this way, users can choose a broad range of combinations among:

- “X(t)” traces according to a single or double time base,
- “Advanced Math” functions
- X(t) and XY simultaneously
- X(t) and FFT simultaneously
- X(t) in SPO (Smart Persistence Oscilloscope) mode
- measurement cursors
- harmonic analysis
- simple recording mode or recording with capture of 100 faults using a double time base

The use of the PC screen as the display (minimum resolution 1024x768) makes the curves more accurate and clearer.



>> SCOPEin@BOX,
simultaneous “X(t)”, “XY” and “FFT” display



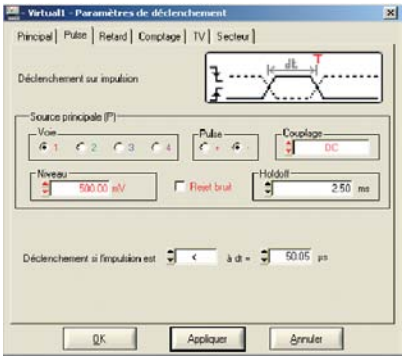
>> MTX 1050,
display of the cursors and recall of traces

MTX 1032-B and **MTX 1032-C** differential probes,
The essential accompaniment for analogue or digital oscilloscopes to view signals not referenced to earth. These "laboratory-grade" probes, powered by the mains, are intended for use separately or linked mechanically to MTX Compact or SCOPEin@BOX oscilloscopes.

Specifications:
- 2 differential channels
- 30 MHz bandwidth for the MTX 1032-B, 50 MHz for the MTX 1032-C
- Diff. input voltage ±600 V
- Attenuation 1/10 and 1/100
- Electrical safety IEC61010-1 600 V CAT III

SCOPEin@BOX Digital Analyser-Recorder Oscilloscopes

Multiple functions

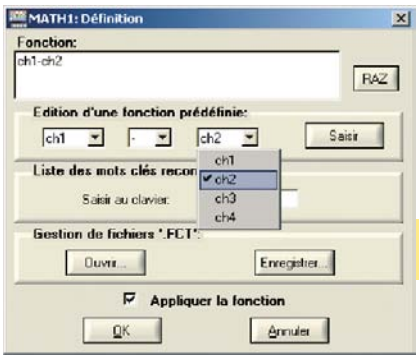


>> The control panel
The “Trigger” tabs

Developed from the **MTX Compact** range, these oscilloscopes provide the same performance. They are simultaneously oscilloscopes with FFT analysis, Harmonic Analysers and Recorders. The **MTX 1052** has **2** input channels, whereas the **MTX 1054** has **4**.

Their bandwidth is **150 MHz** and the sampling rate is **200 MS/s** in one-shot mode and 100 GS/s in repetitive mode.

The two models offer advanced trigger modes and the SPO display mode. The “Advanced Math” functionalities are also included in these oscilloscopes.



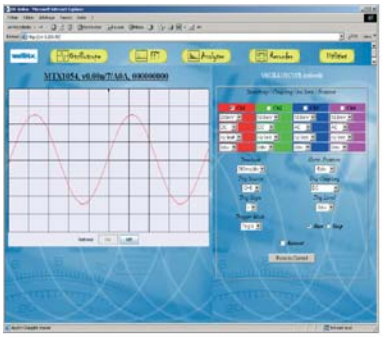
>> The “Advanced MATH” functions

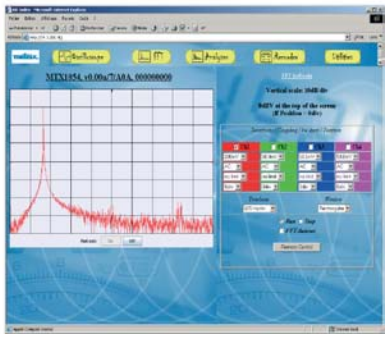
Communication

The **SCOPEin@BOX** models benefit from a universal USB communication mode linking them to the PC and a 10 Mb Ethernet interface for integration in a local or remote network. The firmware updates will be automatic.

With just one or two clicks, it is possible to **export the results into Excel** and print them in Word.

Thanks to the “Web server”, users can **control the oscilloscope remotely** without special software or exchange files via FTP very simply.





>> The “Web Server”:
Remote control without software

>> SCOPEin@BOX rear view

MTX 1050-PC Spectrum Analyser linked to SCOPEin@BOX

The SCOPEin@BOX models are ideal for use with the MTX Compact range, and particularly the **MTX 1050** Spectrum Analyser.
Lightweight, portable and **suitable for general applications**, the **MTX 1050** offers accurate results by means of **4 simultaneous measurement cursors:** Peak detection mode, automatic marker and two delta cursors.
Alongside all the usual applications, the Q-Peak detection mode can be used for measurements in the context of **EMC prequalification** testing.

The versatile **MTX 1050** offers genuine performance:
- 5,000-point display with horizontal resolution
- frequency range from 400 kHz to 1 GHz
- measurement dynamic from –90 dBm to +20 dBm
- high stability (negligible frequency drift of approximately ± 5 ppm/year)
- 6 sweep speeds and 3 video filters
- integrated FM demodulation with built-in loudspeaker

Virtual MTX Series

	MTX 1052	MTX 1054
MAN-MACHINE INTERFACE		
	Colour PC screen / 8 x 10 div / Multi-windowing / Up to 4 curves on screen / “Windows-like” & online help	
OSCILLOSCOPE MODE VERTICAL DEVIATION		
Bandwidth	150 MHz (Bandwidth limiter: 15 MHz, 1,5 MHz ou 5 kHz)	
Number of channels	2 channels, class 1, common earths	4 channels, class 1, common earths
Vertical sensitivity	2.5 mV – 100 V/div, up to 250 µV/div with vertical expansion	
HORIZONTAL DEVIATION		
Sweep rate	35 calibres from 1 ns to 200 s/div	
Horizontal zoom	x1 to x100, 1-2-5 sequence (display of 500 for 10 div)	
TRIGGER		
Mode	Auto, Triggered, One-shot	
Source	CH1, CH2, EXT, Mains	CH1, CH2, CH3, CH4, Mains
Type	Edge, Pulse Width or Delay (40 ns-10.5 s), Counting (2-16,384 events), TV (525 = NTSC, 625=PAL/SECAM), Pre-trigger adjustable from 0 to 100%, Hold-off (40 ns-10.5 s)	
DIGITAL MEMORY		
Maximum sampling rate	Repetitive= 100 GS/s – One-shot = 200 MS/s	
Vertical resolution	10-bit A/D converter (9 bits used)	
Memory capacity	Depth = 50,000 points – storage capacity depends on PC configuration used	
SPO (Smart Persistence Oscilloscope)		
Duration of persistence	100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s and Infinite	
Performance	Acquisition rate 50 kwaveforms/s/channel, no. of samples acquired: 19 MS/s/channel	
MEASUREMENT PROCESSING		
FFT analyser / MATH functions	FFT (calculation over 2,048 points), + , - , x , / - "Made-to-measure" function editor	
Manual cursors	(dv, dt), PHASE and free	
Automatic measurements	2 or 19 measurements out of 19 + automatic phase – On any type of curve - Markers and limits	
RECORDER MODE		
Duration / Sampling frequency	2 s to 31 days / Sampling interval from 40 µs to 53,57 s	
HARMONIC ANALYSER MODE		
Range of analysis	Fundamental + 31 orders, on 1 to 4 channels, and fundamental from 40 Hz to 1 kHz simultaneously	
Data processing	Permanent display: total RMS value & THD – Order selected: %F, phase, freq, Vrms	

GENERAL SPECIFICATIONS - MTX 1052 / MTX 1054	
Memory & printing	"Not limited" but depending on PC configuration / Via "Windows" environment
USB communication with PC	USB to RS232 (921.6 kbauds), HARD protocol / local or remote Ethernet 10 Mb
Power supply	100 to 240 Vac / 47-63 Hz / <16 W
Electrical safety	IEC 61010-1 / CAT II 300 V
Casing / Environment	270 x 213 x 63 mm – 1.8 kg / Storage –20 °C to 60 °C / Use 0 °C to 40 °C
Warranty / Origin	3 years / France

MTX1050	
FREQUENCY	
Frequency range	400 kHz – 1 GHz
Frequency excursion	Zero span, 1 MHz to 100 MHz/div – 1-2-5 sequence
Sweep	Normal or single – 30 ms, 50 ms, 100 ms, 200 ms, 500 ms, 1 ms
Detection modes	Peak or Q-Peak (EMC analysis),
ANALYSIS BAND	
RBW resolution filter	12 kHz, 120 kHz or 1 MHz
Video filter (VBW)	1 kHz, 10 kHz or 300 kHz
AMPLITUDE	
Reference level	-20 dB, 0 dB or +20 dB / Measurement range –90dB to +20dB
MEASUREMENT PROCESSING	
Cursor	1 automatic "Peak" detection marker, 1 cursor locked to the trace and 2 delta cursors
Trace functions	Averaging (factor 2 to 64), Comparison with a reference trace, calculation of the difference between two traces, data transfer into Excel, screen shots with all settings
FUNCTIONS	
Trace memory	On PC with no limitation – Traces: back-up and comparison – Configuration: back-up and recall of complete configs
Demodulation	FM with built-in loudspeaker
COMMUNICATION	
Interface	“Plug & Play” USB as standard
Processing software	"Real time" for control and analysis– 5 languages (FR, GB, GER, IT , SPA)

GENERAL SPECIFICATIONS - MTX 1050	
Display	Colour PC screen, high-resolution, large size / Up to 5,000 pts with horizontal resolution
Power supply	100 to 240 Vac / 47-63 Hz / approx. 7 W
Electrical safety	IEC 61010-1 / CAT II 300 V
Casing / Warranty / Origin	270 x 213 x 63 mm – 1.8 kg / 3 years / France

To order:

MTX1052-PC: Digital Analyser-Oscilloscope, Ethernet, 2 channels, 150 MHz, colour, SCOPEin@BOX PC software, mains power lead, voltage probe 1/1 1/10 200MHz 300V (x2), crossed Ethernet network cable, straight Ethernet network cable, USB cable
MTX1054-PC: Digital Analyser-Oscilloscope, Ethernet, 4 channels, 150 MHz, colour, SCOPEin@BOX PC software, mains power lead, voltage probes 1/1 1/10 200 MHz 300 V (x2), crossed Ethernet network cable, straight Ethernet network cable, USB cable
MTX1050-PC: 1 MTX1050 spectrum analyser, 1 USB communication lead, 1 mains power cable, 1 CD-ROM containing the PC application software and the operating manual, 1 FM antenna with DNC connection.

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For assistance and ordering

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